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Inclusion and Diversity in STEAM

Reflection Questions

Network Security

1. What inspired Dr. Anca Jurcut to pursue a career in network security?

- a) A fascination with network protocols at a young age
- b) Participation in mathematics and informatics competitions
- c) Encouragement from her university lecturer to apply for a postgraduate scholarship
- d) An early interest in ethical hacking

2. What is the primary challenge posed by quantum computing in network security?

- a) It makes internet connections faster and less secure
- b) Quantum computers can easily break current cryptographic methods
- c) It increases the energy consumption of network systems
- d) It reduces the need for encryption in communications

3. How does quantum-resistant cryptography address the challenge of quantum computing in network security?

- a) By using advanced hardware to prevent attacks
- b) By creating encryption algorithms that cannot be broken by quantum computers
- c) By detecting potential threats before they happen
- d) By speeding up data transmission rates over the network

4. Which of the following is an example of a network attack that Dr. Jurcut's security protocols aim to prevent?

- a) A physical break in the network infrastructure
- b) Man-in-the-middle attacks, where attackers intercept communications
- c) Environmental disruptions like earthquakes
- d) Network speed optimizations



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5. How do real-time attack detection systems improve network security?

- a) They allow networks to function faster
- b) They automatically block all data from untrusted sources
- c) They detect and respond to potential security breaches as they happen, preventing damage
- d) They reduce the complexity of encryption algorithms

Answers:

1. What inspired Dr. Anca Jurcut to pursue a career in network security?

Answer: c) Encouragement from her university lecturer to apply for a postgraduate scholarship

2. What is the primary challenge posed by quantum computing in network security?

Answer: b) Quantum computers can easily break current cryptographic methods

3. How does quantum-resistant cryptography address the challenge of quantum computing in network security?

Answer: b) By creating encryption algorithms that cannot be broken by quantum computers

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